SECTION 9. 327 IAC 8-13-9 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-13-9 Chemical Treatment

Authority:
Affected:

Sec. 9. (a) Chemical Treatment shall be provided by each supplier of water where necessary in order to ensure that the finished water supplied to consumers meets the primary maximum contaminant levels contained in 327 IAC 8 and is not objectionable to an appreciable number of consumers. General requirements are as follows:

(1) Feed equipment requirements are as follows:

(A) Duplicate chlorination facilities shall be provided when operating conditions do not allow for the repair of the chlorinator during off-pumping periods.

(B) Chemical feeders shall be:

(i) Accessible for repair and maintenance.

(ii) Protected against dust hazard.

(iii) Accessible to the chemical storage area.

(C) Controls which eliminate any possible hazard of over-dosing shall be provided and operate feed equipment only when there is flow past the point of application.

(D) Automatic stop-start operation and proportional feeding shall be used.

(E) Separate equipment installations shall be used where fluoridation at a single point is not possible.

(F) Weighing scales for measuring the daily amount of chemicals shall be provided for dry feeders.

(2) Replacement parts that shall be on hand are as follows:

(A) Standby chlorination equipment shall be installed and operational at water supplies treating water.

(B) Spare parts consisting of at least the commonly expendable parts such as glassware, fittings, hose clamps and gaskets shall be available for emergency repairs.

(3) Storm piping requirements are as follows:

(A) Piping in a water treatment facility shall be identified clearly by legends and color coding as described in the Standards or American National Standards Institute (ANSI) Standard A-13.1. A consistent standard shall be used throughout the system.

(B) Potable water lines shall be clearly and permanently identified where dual water lines or pressure sewer systems exist.

(4) Storage and handling requirements are as follows:

(A) All one hundred fifty (150) pound chlorine cylinders; full, empty or in use, shall be chained upright. One ton containers shall be secured to prevent movement.

(B) A free chlorine residual of ten (10) milligrams per liter shall be maintained at all times in stock solutions used for iron or manganese sequestration.

(C) Corrosion-resistant containers shall be provided for solution feeders.

(D) Rubber gloves and a dust mask shall be provided with each installation using dry chemicals.

(E) Rubber gloves, acid-resistant aprons and protective goggles shall be provided where hydrofluosilicic acid solutions are fed.

(Operator Safety might reference other rules)

(b) Specific requirements for disinfection are as follows:

(1) Chlorination equipment shall be:

(A) Capable of maintaining a minimum free chlorine residual of twenty-five hundredths (0.25) milligrams per liter or a minimum combined residual of one tenth (0.1) milligrams per liter in all active parts of the distribution system at all times.

(B) Large enough to satisfy the immediate chlorine demand and give a measurable residual of at least two and five tenths (2.5) milligrams per liter under all operating conditions after contact.

(C) Capable of feeding chlorine to the water being treated at dosage rate of at least five (5.0) milligrams per liter except when the water has a high chlorine demand. Factors in determining chlorine demand are as follows:

(i) pH.

(ii) Water temperature.

(iii) Contact time.

(iv) Presence in the water of substances having chlorine demand such as hydrogen sulfide, iron, manganese and nitrogenous compounds including ammonia.

(v) Supplemental treatment such as aeration which reduces chlorine demand.

(2) Continuous disinfection of water drawn from groundwater sources will be required if water quality data, well construction, or system construction indicates a potential health hazard.

(3) Disinfection is to supplement and not replace proper well location, construction, and source protection.

(4) Testing for chlorine residual shall be completed daily at the plant tap and in the distribution system according to the site sample plan. A free and total chlorine sample shall be taken prior to sampling for coliform.

(5) A minimum chlorine contact time of thirty (30) minutes shall be provided for all public water systems. Contact time is measured as the time following filtration of water or chlorination of well water when there is no other treatment, and the time when the water reaches the first user.

(6) Distribution residual shall be maintained at no less than twenty-five hundredths (0.25) milligrams per liter free chlorine and no less than one (1) milligram per liter total chlorine.

(7) Plant residual shall be maintained at no less than two (2) milligrams per liter total chlorine after the contact time requirement is satisfied.

(c) Chlorine operation records are kept as follows:

(1) A copy of the daily operating report records signed by the certified operator or registered person in responsible charge shall be submitted to the Indiana Department of Environmental Management each month. These operating reports shall show the following:

(A) Amount of water pumped.

(B) Chlorine chemical used.

(C) Amount of chlorine chemical fed.

(D) Calculated chlorine dosage.

(E) Residual of free and total chlorine test results from the distribution and plant.

(2) An individual set of records shall be maintained for each installation when more than one source of water with separate chlorination equipment is used.

(3) A copy of the daily operating report shall be maintained by the official custodian of the public water system

(4) How long should they keep records? (get input from workgroup)

(5) Chlorine requirements for satellite communities are as follows:

(A) Satellite community water supplies are required to monitor for chlorine both free and total at the entry point and throughout to distribution system.

(B) Chlorination facilities shall be installed and used:

(i) Whenever the chlorine residual in any active part of the distribution system drops below twenty-five hundredths (0.25) milligrams per liter free or one (1) milligram per liter total; or

(ii) If daily operating report records of chlorine residuals are not kept and submitted to the Agency.

(d) The following systems must meet all of the following requirements to be considered exempt from chlorination:

(1) The population served by the community water supply does not exceed five thousand (5000) individuals based upon the latest census figures or complete records of individuals served.

(2) The supply shall have as its only source of raw water one or more wells constructed in accordance with 327 IAC 8-3 into confined geologic formations not subject to contamination. Verification will be based on the driller's log, visual inspection of the well(s), general geology of the area, and results of bacteriological analyses performed on raw water samples. Supplies which do not have this data may apply for an exemption as long as samples are satisfactory.

(3) The supply shall not have a history of persistent or recurring contamination as indicated by sampling results which show violation of finished water quality requirements for the most recent five year period. Verification will be based on review of the last five years of sample results; the most recent twelve (12) months will be weighted more heavily. New

supplies without this data may apply for an exemption based on available samples.

(4) The supply shall not provide any raw water treatment other than fluoridation. Treatment will be verified by facility inspection.

(5) Chlorination exemptions are valid until revoked. A chlorination exemption shall be revoked immediately without prior notice if a supply fails to meet any of the exemption requirements. An application for a Construction Permit for the installation of chlorination equipment shall be made within sixty (60) days following revocation. Chlorination equipment shall be installed and a properly certified operator shall be retained or an appeal filed with the Indiana Department of Environmental Management within ninety (90) days following revocation. One or more of the following conditions will result in revocation:

(A) Increase in population to greater than five thousand (5000) individuals.

(B) Addition of a new source subject to contamination or finding that an existing source is subject to contamination based on raw water bacteriological analyses records.

(C) Development of a history of recurring or persistent contamination as indicated by sampling results.

(D) Addition of treatment other than fluoridation.

(E) Failure to maintain an active program of educating water consumers on prevention of contamination.

(F) failure to have a certified operator or registered person for more than fifteen (15) days.

(G) Failure to submit bacteriological samples twice a month during more than three months of the past twelve (12) months or for two consecutive sampling periods. A supply which fails to monitor for bacteriological quality on a semi-monthly basis but does have one set of samples analyzed for each monthly sampling period will not be required to make public notice for the monitoring violation.

(e) Other types of Disinfection (get information from workgroup)

(f) Back up Disinfection Other Chemical being added (i.e. Phosphate) (get information from workgroup)

(g) General Statement on maintenance of equipment per manuals (get information from workgroup)

(h) Effect of oxidants on equipment (get information from workgroup)

(i) Required NSF Requirements (get information from workgroup)

(j) Direct/Indirect Additives Rules (get information from workgroup)